

REMARKS

This amendment is being filed in response to the Office Action having a mailing date of June 5, 2006. Various claims are amended as shown. Claims 3-4 and 10 are canceled herein without prejudice. New claims 29-33 are added. No new matter has been added. With this amendment, claims 1-2, 5-9, and 11-33 are pending in the application.

I. Objections to the specification

The Office Action objected to the specification because “it has URLs or other browser executable code.” The Office Action cited page 1, line 15 of the specification as an example, and further identified “www.gslb1.com” or “www.foo.com” from elsewhere in the specification as additional examples. The Office Action further cited MPEP § 608.01 to support the objection.

It is respectfully submitted that such text can be properly kept in the specification, since it is not intended for such text to be active hyperlinks, and further, such text was used in the specification to assist in explaining example features of non-limiting embodiments of the invention that were described in the specification. Specifically, MPEP § 608.01(VII) states the following (emphasis added):

Where the hyperlinks and/or other forms of browser-executable codes themselves rather than the contents of the site to which the hyperlinks are directed are part of applicant's invention and it is necessary to have them included in the patent application in order to comply with the requirements of 35 U.S.C. 112, first paragraph, and applicant does not intend to have these hyperlinks be active links, examiners should not object to these hyperlinks. The Office will disable these hyperlinks when preparing the text to be loaded onto the USPTO web database.

Accordingly, the Examiner is kindly requested to withdraw the objection to the specification.

II. Rejections under 35 U.S.C. §112, second paragraph

The Office Action rejected claims 1-28 under 35 U.S.C. §112, second paragraph for being indefinite. Specifically with regards to claims 14-16, the Office Action stated that the assigned addresses of claim 14 “are assigned but used nowhere.” Claim 14 has been amended as shown above to address the indefiniteness rejection.

The Office Action further stated that with regards to claims 1-8 (and other claims), the terms “network resource” and “network device” are not “clearly defined and/or described in the specification.” This indefiniteness rejection is respectfully traversed.

For example and with regards to the “network resource” terminology, page 1, lines 10-14 of the present application describe the use of TCP/IP in which a URL is resolved into an IP address of a server in order to access an application program or “another type of resource” (emphasis ours). Further, the claims as originally filed form part of the specification and specify (such as in claim 2 as originally filed) that the network resource can be accessed through the network device. Accordingly, it is respectfully submitted that the “network resource” terminology meets definiteness requirements.

However, to facilitate prosecution, the various claims that originally recited “network resource” have been amended to recite --resource--, so as to use terminology consistent with the written description, such as on page 1, lines 10-14 and elsewhere in the specification. Thus, such claims are further definite under 35 U.S.C. §112, second paragraph.

With regards to the “network device” terminology, page 7, lines 20-26 (in particular line 23) describes the network device as being the site switch(es) 108 or other network device such as a router. The switch 108 is further shown and described with reference to Figure 1. Thus, the definiteness requirements of 35 U.S.C. §112, second paragraph have been met. Accordingly, it is kindly requested that the indefiniteness rejections of claims 1-8 and other claims be withdrawn.

III. Discussion of the claims and the cited reference

Claims 1-28 were rejected under 35 U.S.C. § 102(b) as being anticipated by a white paper from Foundry Networks, Inc., entitled “Server Load Balancing in Today’s

Web-Enabled Enterprises” (hereinafter referred to as the “White Paper”). It is respectfully submitted that this rejection is overcome in view of the amendments above and the arguments below.

As explained in pages 2-4 of the present application, virtual IP addresses (VIPs) are used in addition to real server addresses. A VIP having a private IP address is configured on a site switch. The site switch would know the private IP address associated with that VIP, but would not know the public IP address mapped to that private IP address by a mapping device (such as a firewall device). As a result, the site switch would communicate only the private IP address (and its associated metrics information) rather than the public IP address to the peer global server load balancing (GSLB) switch. Meanwhile, the authoritative DNS server (for which the peer GSLB switch is serving as a proxy and for which the GSLB switch is handling load balancing for the site having the VIP) has been configured with only the public IP address for the VIP for that site. Accordingly, when the GSLB switch receives the DNS reply from the authoritative DNS server, the GSLB switch would not recognize the public IP address in the DNS reply as being a VIP at that site, since the GSLB switch is only aware of the private IP address of the VIP received from the site switch. The GSLB switch therefore treats the received public IP address as a real address, since the private IP address is different from the public IP address in the DNS reply being reordered by the GSLB switch. Accordingly, the GSLB switch would not apply (or would incorrectly apply) some of the load balancing metrics, such as the active bindings metric (where the best IP address is the VIP that has the maximum number of active real servers bound to it), which are usable only with virtual addresses. Had the GSLB switch been able to correctly identify the received address as being a VIP, the GSLB would have been able to apply the correct metric(s) for VIPs when reordering the reply from the authoritative DNS server for which it is serving as a proxy.

Independent claim 1 has been amended to recite, *inter alia*, that “the first address is a private virtual internet protocol (VIP) address and the second address is a public VIP address.” Further, claim 1 is amended to recite that the at least one metric is “usable with VIP addresses rather than real addresses.” It is respectfully submitted that such features are not disclosed, taught, or suggested in the White Paper.

For example, the Office Action has cited the figure and item 4 on page 6 of the White Paper as disclosing the mapping of public and private addresses. However, a closer reading of item 4 of the White Paper reveals that this section merely talks about the selection of a best IP address and is completely silent as to whether such IP address(es) are virtual, real, private, or public. Certainly, this item 4 on page 6 of the White Paper does not specifically mention that the IP addresses are private VIP address and public VIP address and further does not mention the mapping between them, as recited in amended claim 1.

Page 4 (subsection entitled “SLB During Server Failure”) of the White Paper has been cited as disclosing mapping between private and public addresses. Again, it is respectfully submitted that this section of the White Paper does not disclose that such addresses are private and public VIP addresses as recited in amended claim 1.

Therefore, it is believed that claim 1 is allowable over the White Paper in view of the above distinctions.

To make claim 1 further allowable over the White Paper, claim 1 is amended to further recite that the at least one metric (associated with the second address—the public VIP address) is “usable with VIP addresses rather than real addresses.” The White Paper is completely silent with regards to any specific metric that are usable with VIP address rather than with real addresses. Page 7 of the White Paper lists various metrics, but none of these metrics meet the requirements for being “usable with VIP addresses rather than with real addresses” as recited in claim 1. For example, one implementation of the metric based on “geographic locations of the server” identified in the White Paper is clearly usable with a real address and not with a VIP address (*e.g.*, since a same VIP address can potentially span different geographically diverse servers, the geographic metric would have to be based on the real address of the geographically diverse servers). Such an implementation of the geographic metric in the White Paper does not have the restriction of being usable with VIP addresses rather than with real addresses as recited in claim 1—the metrics in the White Paper are usable only for real addresses and/or usable for both real and virtual addresses. Thus, claim 1 is further allowable over the White Paper.

Independent claims 9, 14, 17, 21, and 24 are amended in a manner similar to independent claim 1 to recite a public VIP address, a private VIP address, and a metric based on virtual addresses rather than real address (or similar language). For the same reasons as detailed above with respect to claim 1, claims 9, 14, 17, 21, and 24 are allowable over the White Paper, since the White Paper does not disclose, teach, or suggest the public VIP address, private VIP address, and metric as recited in these claims.

The various dependent claims have been amended to make their recitations consistent with their respective independent claims. Claims 3-4 and 10 have been canceled (without prejudice) since their recitations are now included in their base independent claims.

New dependent claims 29-33 are added, and recite that the metric is an "active bindings" metric that prefers a VIP address having a maximum number of active real servers bound to it. Such a feature is not disclosed, taught, or suggested in any of the references on record. Accordingly, claims 29-33 are allowable.

IV. Supplemental Information Disclosure Statements (IDSs)

A fifth supplemental IDS was previously filed on August 9, 2006, subsequent to the mailing date of the present Office Action. This fifth supplemental IDS submitted a form PTO-1449 having seven (7) references listed thereon, plus the appropriate certification. The seven references were: Derby (U.S. Patent No. 5,359,593), Weinberg (U.S. Patent No. 6,549,944), Callis (U.S. Patent No. 6,963,917), Swildens (U.S. Patent No. 7,032,010), Shabtay (U.S. Patent Publication No. 2002/0120743), Acharya (U.S. Patent Publication No. 2003/0065711), and Cunningham (U.S. Patent Publication No. 2005/0086295).

Enclosed with this present amendment is a sixth supplemental IDS, form PTO-1449 having Biliris (U.S. Patent Publication No. 20020078233) listed therein, and the appropriate certification.

The Examiner is kindly requested to return an initialed copy of the above-referenced two forms PTO-1449 along with the next communication, so as to confirm that the references listed thereon have been considered and placed on record.

V. Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above amendments and accompanying remarks, the independent claims are now in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 622-4900.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,
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